Serial No. 10/044,358

In the claims:

1. (amended) An optoelectronic device, comprising:

an active region adjacent a distributed bragg reflector (DBR) comprising a plurality of mirror periods wherein said mirror periods comprise a first layer formed from a first material having a first thermal conductivity and a second layer formed from a second material having a second thermal conductivity that is greater than said first thermal conductivity and, wherein optical thickness of said first layer does not equal optical thickness of said second layer for at least a portion of the plurality of mirror periods.

2. (original) The optoelectronic device of claim 1 wherein the thickness of said first layers is one fourth of a wavelength of light emitted by said optoelectronic device and wherein the optical thickness of said second layers is an odd integer multiple of one fourth of the wavelength of the light emitted by said optoelectronic device.

3. (original) The optoelectronic device of claim 1 wherein thickness of the second layer of at least said portion of mirror periods varies in a non-uniform fashion as a function of distance from said active region.

4. (original) The optoelectronic device of claim 3 wherein the mirror period in closest proximity to the active region comprises the thickest second layer.

5. (original) The optoelectronic device of claim 4 wherein thickness of the second layers decreases by an integer multiple of one half of a wavelength of light emitted by said optoelectronic device for mirror periods as a function of distance from said active region.

6. (original) The optoelectronic device of claim 1 wherein the optical thickness of said first layer is less than the optical thickness of said second layer and the sum of the optical thicknesses of said pair of layers is one half of a wavelength of light emitted by said optoelectronic device.

7. (original) The optoelectronic device of claim 1 further comprising a second DBR adjacent said active region.

8. (original) The optoelectronic device of claim 7 wherein said second DBR comprises a plurality of semiconductor mirror layers.

9. (original) The optoelectronic device of claim 7 wherein said second DBR comprises a plurality of dielectric mirror layers.

10. (original) The optoelectronic device of claim 7 wherein said second DBR comprises a hybrid mirror comprising a dielectric portion and a semiconductor portion.

11. (original) The optoelectronic device of claim 1 wherein said active region comprises at least one quantum wells.

12. (original) The optoelectronic device of claim 11 wherein at least one quantum wells comprise GaAs.

13. (amended) The optoelectronic device of claim 11 wherein at least one quantum wells comprise $\underline{In_{1-x}Ga_xAs_{1-y}N_y}$ ~~$In_{1-y}GaAsNy$~~.

14. (original) The optoelectronic device of claim 1 wherein the first material comprises $Al_xGa_{1-x}As$ and the second material comprises AlAs.

15. (original) The optoelectronic device of claim 14 wherein x equals zero.

16. (amended) An optoelectronic device, comprising:

an active region formed adjacent a distributed bragg reflector (DBR) comprising a plurality of mirror periods wherein said mirror periods comprise a first layer, formed from a

first material having a first thermal conductivity and a second layer, formed from a second material having a second thermal conductivity that is greater than said first thermal conductivity and, wherein thickness of at least a portion of said mirror periods is greater than one-half wavelength of light emitted by said optoelectronic device.

17. (amended) The optoelectronic device of claim ~~16~~ 19 wherein the thickness of said first layers is one fourth of a wavelength of light emitted by said optoelectronic device and wherein the thickness of said second layers is an odd integer multiple of one fourth of the wavelength of the light emitted by said optoelectronic device.

18. (amended) The optoelectronic device of claim ~~16~~ 19 wherein the thickness of said second layers is one fourth of a wavelength of light emitted by said optoelectronic device and wherein the thickness of said first layers is an odd integer multiple of one fourth of the wavelength of the light emitted by said optoelectronic device.

19. (original) The optoelectronic device of claim 16 wherein the thickness of said first layers is an odd integer multiple of one fourth of the wavelength of the light emitted by said optoelectronic device and wherein the thickness of said second layers is an odd integer multiple of one fourth of the wavelength of the light emitted by said optoelectronic device.

20. (original) The optoelectronic device of claim 16 wherein the first material comprises $Al_xGa_{1-x}As$ and the second material comprises AlAs.

21. (original) The optoelectronic device of claim 20 wherein x equals zero.

22. (original) The optoelectronic device of claim 21 wherein thickness of said first layers is greater than thickness of said second layers for at least said portion of said mirror periods having a thickness greater than one-half the wavelength of light emitted by said optoelectronic device.

23. (original) The optoelectronic device of claim 16 further comprising a second DBR adjacent said active region.

24. (original) The optoelectronic device of claim 23 wherein said second DBR comprises a plurality of semiconductor mirror layers.

25. (original) The optoelectronic device of claim 23 wherein said second DBR comprises a plurality of dielectric mirror layers.

26. (original) The optoelectronic device of claim 23 wherein said second DBR comprises a hybrid mirror comprising a dielectric portion and a semiconductor portion.

27. (original) The optoelectronic device of claim 16 wherein said active region comprises at least one quantum wells.

28. (original) The optoelectronic device of claim 27 wherein at least one quantum wells comprise GaAs.

29. (original) The optoelectronic device of claim 27 wherein at least one quantum wells comprise $In_{1-y}GaAsN_y$.

30. (new) An optoelectronic device comprising:

an active region; and

a distributed bragg reflector (DBR) adjacent said active region, said DBR comprising a plurality of mirror periods wherein said mirror periods comprise a first layer formed from a first material having a first thermal conductivity and a second layer formed from a second material having a second thermal conductivity,

said second thermal conductivity being greater than said first thermal conductivity,

said plurality of mirror periods including a first mirror period adjacent said active region,

said second layer of said first mirror period being adjacent said active region,

said second layer of said first mirror period having an optical thickness greater than an optical thickness of said first layer of said first mirror period,

each of said plurality of mirror periods having an optical thickness equal to a multiple of ½ wavelength of light emitted by said optoelectronic device.

31. (new) The optoelectronic device of claim 30 wherein the thickness of said first layers is ¼ of a wavelength of light emitted by said optoelectronic device and wherein the optical thickness of said second layers is an odd integer multiple of ¼ of a wavelength of light emitted by said optoelectronic device.

32. (new) The optoelectronic device of claim 30 wherein the thickness of the second layer of at least a portion of said plurality of mirror periods varies in a non-uniform fashion as a function of distance from said active region.

33. (new) The optoelectronic device of claim 30 further comprising a second DBR adjacent an opposite side of said active region.

34. (new) The optoelectronic device of claim 33 wherein said second DBR comprises a plurality of semiconductor mirror layers.

35. (new) The optoelectronic device of claim 33 wherein said second DBR comprises a plurality of dielectric mirror layers.

36. (new) The optoelectronic device of claim 33 wherein said second DBR comprises a hybrid mirror comprising a dielectric portion and a semiconductor portion.

37. (new) The optoelectronic device of claim 30 wherein said active region comprises at least one quantum well.

38. (new) The optoelectronic device of claim 37 wherein at least one quantum well comprises GaAs.

39. (new) The optoelectronic device of claim 37 wherein at least one quantum well comprises $In_{1-x}Ga_xAs_{1-y}N_y$.

40. (new) The optoelectronic device of claim 30 wherein said first material comprises $Al_xGa_{1-x}As$ and said second material comprises AlAs.

41. (new) The optoelectronic device of claim 40 wherein x equals zero.